

CONTINUED CONTROL
SURVEY OF SHORT-WAVE RADIO PRODUCTION IN THE EUROPEAN SATELLITES

IR-446

A. Problem

To estimate the number of European Satellite short-wave broadcast radio receivers produced from 1945 through 1956, and the number of receivers in use.

B. Conclusions

Requested information is presented in Table 1, below. Column headings are explained in notes following the table.

Table 1

	Thousands						
	<u>Prod</u>	<u>SW</u>	<u>15 mc</u>	<u>17 mc</u>	<u>21 mc</u>	<u>26 mc</u>	<u>In Use</u>
Albania ^{1/}	—	9	—	—	—	—	23
Bulgaria ^{4/}	424	154	15	46	—	—	350
Czech ^{2/}	2,968	2,320	280	703	565	703	3,200
East Germany ^{6/}	4,835	2,900	290	1,160	—	—	5,700
Hungary ^{7/}	1,630	980	98	196	294	49	1,250
Poland ^{8/}	2,070	1,860	372	186	—	—	1,700
Rumania ^{9/}	563	230	125	75	13	—	800

Note: Prod - totals estimated to be produced for the period 1945 through 1956.
 SW - number of receivers capable of short-wave reception (frequencies above 1600 kc).
 15mc - number of receivers capable of reception of frequencies through 15 and under 17 megacycles per second.
 17mc - number of receivers capable of reception of frequencies through 17 and under 21 megacycles per second.
 21mc - number of receivers capable of reception of frequencies through 21 and under 26 megacycles per second.
 26mc - number of receivers produced capable of reception of frequencies through 26 megacycles per second.
 In Use - estimated number of broadcast receivers in use at the end of 1956.

C. Discussion and Methodology

All of the European Satellites, with the exception of Albania have produced radio broadcast receivers in increasing numbers since 1945. East Germany has been the largest producer and Bulgaria the smallest. The larger producers have exported

considerable quantities of receivers to Bloc countries having limited or no production capacity. An unknown quantity of receivers has been exported outside the Bloc.

Production estimates by each of the European Satellites for the years 1945 through 1956 are presented in Table 2, below.

Estimates of production have been taken for the most part from previous studies.^{1/}

Adjustments of older estimates and projection of estimates through 1956 are based on announced plans and/or fulfillment announcements where available. Production growth factors have been applied which follow an indicated trend, where other supporting information is lacking.

Table 2

	Thousands					
	<u>Bulgaria</u>	<u>Czech</u>	<u>East Germany</u>	<u>Hungary</u>	<u>Poland</u>	<u>Rumania</u>
1945	--	--	--	--	--	--
1946	--	105	60	11	--	--
1947	--	160	100	15	7	--
1948	2.4	268	150	24	37	1.1
1949	2.5	256	220	70	66	12.0
1950	7.1	245	275	100	112	25.0
1951	7.9	230	374	165	150	40.0
1952	10.0	270	398	140	210	45.0
1953	26.0	320	600	150	260	75.0
1954	83.0	340	813	182	308	100.0
1955	125.0	374	900	373	460	125.0
1956	<u>160.0</u>	<u>400</u>	<u>945</u>	<u>400</u>	<u>460</u>	<u>140.0</u>
TOTAL	423.9	2,968	4,835	1,630	2,070	569.1

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Receiver production mix by frequency reception capability is based on previous estimates for the earlier years. For the years since 1953, the period of most heavy production, frequency information is weak and estimates are based on the characteristics of receiver types which are believed to have been produced in the greatest quantities.

Frequency reception characteristics of the various models of receivers are not clear cut. As an example, Polish receivers are noted to have different frequency bands for individual models depending on whether the set is intended for export or domestic consumption. This probably applies to the products of the other satellites; in particular, the larger, older producers such as East Germany, Czechoslovakia, and Hungary. Another factor which hinders determination of frequency mix is the increase in the number of different models of receivers being produced. This appears to be more true of production since 1953 than of prior years.

Short-wave reception capability of receivers expressed as a percentage of total receiver production is presented in Table 3.

Table 3

Percentages of Total Production Representing Short-Wave Capability

	<u>Percentage</u>
Bulgaria	36
Czechoslovakia	78
East Germany	60
Hungary	60
Poland	90
Rumania	41

Receivers capable of receiving specified short-wave frequencies expressed as a percentage of total short-wave receivers produced is presented in Table 4, below. It will be noted that Table 4 presents the percentage of receivers capable of reception through the frequency indicated at the heading of the column, but less than the higher frequencies indicated in the columns to the right.

Table 4

Percentage of SW Receivers Capable of Receiving Specified Frequencies
(see text)

	<u>15 mc</u>	<u>17 mc</u>	<u>21 mc</u>	<u>26 mc</u>
Bulgaria	9.8	30	—	—
Czechoslovakia	12.0	30	25	30
East Germany	10.0	40	—	—
Hungary	10.0	20	30	5
Poland	20.0	10	—	—
Rumania	54.0	33	6	—

Total receivers in use for the European Satellite countries is presented in

Table 5.

Table 5

Total Broadcast Receivers Estimated to Be in Use by End of 1956

	<u>Thousands</u>
Albania	23
Bulgaria	390
Czechoslovakia	3,200
East Germany	5,700
Hungary	1,250
Poland	1,700
Rumania	800

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In use radio broadcast receiver estimates are based on open source Satellite

announcements. Estimates through 1955 have been projected through 1956 by applying

a growth factor which has been typical of recent years. ^{2/}

Sources:

1. CIA/RR 11-S-1, 13 Dec 54, Production of Civilian Radio and Television Receivers in the Soviet Bloc, S/OFF USE

2. S/COM Contribution to Project 10.804, 16 Apr 56, S/MOFURN

3. Albania:

Audience Analysis Report, No. 57, Survey for 1952, Albania, C

4. Bulgaria:

Treasure Island, Serial No. 162928, from: Bulgarian Planovo Stopanstvo, No. 6, Soviya, Jun 54, p. 22-23, U

FDD Summary 803, 25 Jun 56, U/OFF USE

25X1A

FDD Summary 597, 28 Jun 55, U/OFF USE

FDD Summary 546, 17 Jun 55, U/OFF USE

5. Czechoslovakia:

25X1A

Audience Analysis Report, No. 67, Jul-Aug-Sep 53, Czechoslovakia, C

25X1A

6. East Germany:

25X1A

FDD Summary 615, 12 Aug 55, p. 66, U/OFF USE

DA, RAP-215-55, D 328498, 11 Jul 55, C

25X1A

Air, STB-D-55-110, D 190660, 14 Feb 55, C

25X1A

WDGS, RT: 579-53, D 2484, 10 Dec 53, C

7. Hungary:

25X1A

FBIS, Daily Report, No. 2, 4 Jan 56, U/OFF USE

FBIS, No. 15, 1956, U/OFF USE

Air, IR-286-55, D 230974, 27 May 55, C

DA, R-604-55, D 364038, 28 Nov 55, C

DA, R-668-55, D 363365, 13 Dec 55, C

WDGS-R-741-54, 2523497, 21 Apr 54, C

RFE, Item No. 1164/54, 9 Apr 54, U

DA, R-230-55, D 246758, 25 May 55, C

DA, R-1483-52, 883324, 20 Sep 52, C

25X1A

Audience Analysis Report No. 68, Hungary, Jul-Sep 53, C

FBIS, 26 Apr 54, Hungary, U

8. Poland:

25X1C

FDD Summary 680, 6 Oct 55, From: Warsaw Zycie Gospodarcze, 26 Jun 55, U/OFF USE

FDD Translation, No. 530, 22 Mar 56, Polish Telecommunications Statistics, 1948, U/OFF USE

FDD Summary 858, 15 Mar 56, p. 88, U/OFF USE

FDD Summary 232, 4 Oct 54, p. 52, C

FDD Summary 292, 30 Nov 54, From: Warsaw, Radiomator, Oct 54, C

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8. Poland:

25X1C FDD Summary 191, 23 Aug 54, From: Warsaw, Gospodarka Lacznosci, Jun 54, C
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FBIS, No. 31, 5 Aug 53, p. B9, U/OFF USE

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9. Rumania:

25X1A [REDACTED]
FBIS 1472, From: Bucharest, Home, 12 Aug 54, U/OFF USE
Air, IR-4610-55, D 348312, 14 Oct 55, C

25X1A [REDACTED]
Air, 141-178-55, 24 Feb 55, Info 28-54, U
Audience Analysis Report No. 71, Rumania, Jul-Sep 53, U

25X1A [REDACTED]